

UNIQUE PROCESS CHEMISTRY FOR ETCHING
ORGANIC LOW-K MATERIALS

Abstract of the Disclosure

Method for etching a feature in an integrated circuit wafer with minimized effect of

- 5 micromasking. The method introduces a flow of etchant gas including a fluorocarbon gas to the wafer, and uses the etchant gas to form a plasma in proximity with at least a portion of the wafer. The plasma is used to etch at least a portion of the feature in the wafer. Disassociation of the fluorocarbon into fluorine and hydrocarbon species performs two functions. The fluorine species prevents or significantly reduces sputtered hardmask components from
- 10 depositing on the floor of the etched feature during etching. The hydrocarbon species acts to form a passivation layer on the sidewalls of the feature.